

Notes on the Prototype Economic Table Developed for the State of Washington

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I want to thank Jane Venohr of the Center for Policy Research (Denver, Co) for agreeing to take my latest Rothbarth estimates and construct the attached economic table. Dr. Venohr has a long history of providing states with economic tables based upon economic estimates of the cost of children for use in the calculation of child support. The methods she used to construct this table were the same as she would use to construct any other tables. This table was constructed based upon the assumption that the amount of child care and the amount of 'extraordinary' medical expenses would be determined separately and not included in the table. For purposes of this table, 'extraordinary' medical expenses were considered to be any medical spending on a child that exceeded \$250 per annum.

Economic Table:

The economic table provides an estimate of the average amount of monthly spending on children given the combined monthly net income (after tax income) in intact families. Note these estimates are on a PER CHILD basis just as the current tables are presented. This estimate is provided for one to five children. While estimates for one through three children are based upon Rothbarth estimates of child spending, the figures for four and five children represent extrapolations of the estimates for three children. In particular, it is assumed that the 'marginal cost' of the fourth child is 11.7% more than the cost of three children and the fifth child is 10% more than the cost of four children.

The table was constructed to reflect estimates for July 2011 price levels.

Source of Estimates of Spending on Children:

As requested, this table utilizes my most recent Rothbarth estimates done for the State of California (2010) that utilized data from the Consumer Expenditure Survey (CE) from calendar years 2004 through 2008. I have also attached a draft copy of this report. If there is any interest, I can acquire the final version published by the Courts of California and forward it to you.

Source of other factors determining spending on children:

My estimates of spending on children provide information of the relationship between total family spending and the percent of that spending that is made on behalf of the children. To construct the economic table, additional information is need:

- The relationship between net income and total family spending;

- Spending on child care as a percentage of net income; and
- 'Extraordinary' medical spending on children as percentage of net income.

These relationships were estimated from the same data set used to estimate the Rothbarth model – data on married couples with children from the 2004 through 2008 Consumer Expenditure Survey.

Construction of Table:

While the Rothbarth estimate of spending on children is in theory a continuous function of total family spending, the above three relationships were estimated using net income intervals. For example, the relationship between total spending and net income was estimated by computing the ratio of total spending of families whose income was in a given income interval to the total amount of income of the same families. The net income intervals used were the following. The first net income interval was \$0 to \$40,000 of net income. For net incomes from \$40,000 to \$130,000, \$5,000 income intervals were chosen. The next to last interval was \$130,000 to \$150,000 while the final interval included all families with more than \$150,000 of net income (the mean income in this last income interval was \$181,668 in 2010 dollars).

The estimates of spending on children after adjusting for child care and 'extraordinary' medical spending were computed for the midpoint of each income interval. This data was then used to construct the attached economic table by interpolating the midpoint estimates.

Excel Workbook – WA Rothbarth.xlsx

The first sheet has three panels. The first panel on the left is the prototype economic table for one to five children for monthly net incomes from \$1,000 to \$15,000 (\$180,000 annually – roughly the mean of the highest income interval). The next panel displays the entry amount as a percentage of the net income. Note the percentage declines as net income increase but the percentage rises with the number of children. The final panel displays the marginal cost of the second through fifth child. For the second and third child this percentage is estimated to decline with the net income of the parents. However, the marginal cost does not vary for the fourth and fifth child because this relationship is assumed not estimated.

The second sheet compares the prototype table with the current Washington Economic Table by taking a weighted average of the amounts for children 0 to 11 years old (A) and children 12-17 years old (B). (The weighted average was computed on the basis of the number of years in each age category – 12 years in category A and 6 years in category B.)

The third sheet compares the current table that has the age distinction with a prototype that also has an age distinction between 0-11 year olds and 12-17 year olds. The current table assumes that older children are 23.6% more expensive than younger children and this assumption was used to construct the age differences for the prototype table.

Comparing tables:

When comparing the prototype with the current economic table, the easiest comparison is when both tables don't make distinctions based upon age. For one child, the prototype economic table is higher than the current table for combined monthly net incomes between \$2,700 and \$11,900 (the top of the current table). While most of the increases are modest (less than 10%), the largest increases in percentage terms occur at \$3,800 of monthly net income. This type of comparison is relevant if the question is how would order change today if decided to change to the prototype.

Not that this question isn't relevant, it is not the only one. Recognizing that the economic table has not been changed at these levels since its inception, we could ask whether the current table maintains the same assumptions about spending on children today as it did when the guideline was first created? Today is the state asking more or less from parents who are divorcing? To answer that question, we need to ask what level of net income would be equivalent in the early 80s to \$3,800 today? Since the early 80s, prices and incomes have risen. Let us assume that net incomes have risen by the same percentage as prices. Between the early 80s (82 to 84 average) the consumer price index has risen from 100 to 225.9 in July 2011 – suggesting prices have more than doubled but let us assume that they have only doubled. This would suggest that an equivalent net income of \$3,800 today would be \$1,900 in the early 80s. In the early 80s, a family with \$1,900 would have been expected to spend \$439 (average of A and B) on one child or 23.1% of their combined net income. But if prices double and incomes double then why would we expect the percentage of their income spent on the child to change? We wouldn't so if the economic table had been adjusted for prices and incomes over time to maintain the spending assumptions made in the early 80s, a family today with \$3,800 of net income should be expected to spend 23.1% of their net income on the single child or \$878 per month. Note that since we have not adjusted the table for changes in prices, the amount for this family with \$3,800 of net income today is \$627 or 16.5% of their net income. By not adjusting the economic table for inflation but having using inflation adjusted net incomes, we have been lowering the percentage of net income of parents that is being expected to be devoted to children. The prototype table has a value of \$822 that is 31% higher than the current value of the table for \$3,800 of income but is less than what we would have expected from an equivalent family in the early 80s (\$878).